Complete Summary

GUIDELINE TITLE

ACR Appropriateness Criteria™ for chronic ankle pain.

BIBLIOGRAPHIC SOURCE(S)

American College of Radiology (ACR), Expert Panel on Musculoskeletal Imaging. Chronic ankle pain. Reston (VA): American College of Radiology (ACR); 2002. 12 p. (ACR appropriateness criteria). [34 references]

COMPLETE SUMMARY CONTENT

SCOPE

DISEASE/CONDITION(S)

Chronic ankle pain

GUIDELINE CATEGORY

Diagnosis

CLINICAL SPECIALTY

Family Practice
Internal Medicine
Nuclear Medicine
Orthopedic Surgery
Podiatry
Radiology

INTENDED USERS

Health Plans
Hospitals
Managed Care Organizations
Physicians
Utilization Management

GUIDELINE OBJECTIVE(S)

To evaluate the appropriateness of initial radiologic examinations for chronic ankle pain

TARGET POPULATION

Patients with chronic ankle pain

INTERVENTIONS AND PRACTICES CONSIDERED

1. Plain films: anteroposterior (AP), lateral, and mortise views
2. Stress films
    - With manual stressing
    - Stress using biomechanical device
    - Manual stress while under general anesthesia
3. Radionuclide scanning: radionuclide bone scan
4. Cross-sectional imaging
    - Ultrasound (US)
    - Magnetic resonance imaging (MRI)
    - Computed tomography (CT)
5. Injection procedures
    - Conventional arthrography
    - CT arthrography
    - Magnetic resonance (MR) arthrography
    - Tenography
    - Diagnostic injection of anesthetic

MAJOR OUTCOMES CONSIDERED

Utility of radiologic examinations in differential diagnosis

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The guideline developer performed literature searches of recent peer-reviewed medical journals, primarily using the National Library of Medicine's MEDLINE database. The developer identified and collected the major applicable articles.

NUMBER OF SOURCE DOCUMENTS

The total number of source documents identified as the result of the literature search is not known.

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Expert Consensus (Delphi Method)
Weighting According to a Rating Scheme (Scheme Not Given)

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

One or two topic leaders within a panel assume the responsibility of developing an evidence table for each clinical condition, based on analysis of the current literature. These tables serve as a basis for developing a narrative specific to each clinical condition.

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Expert Consensus (Delphi)

DESCRIPTION OF METHODS USED TO FORMULATE THE RECOMMENDATIONS

Since data available from existing scientific studies are usually insufficient for meta-analysis, broad-based consensus techniques are needed to reach agreement in the formulation of the Appropriateness Criteria. Serial surveys are conducted by distributing questionnaires to consolidate expert opinions within each panel. These questionnaires are distributed to the participants along with the evidence table and narrative as developed by the topic leader(s). Questionnaires are completed by the participants in their own professional setting without influence of the other members. Voting is conducted using a scoring system from 1-9, indicating the least to the most appropriate imaging examination or therapeutic procedure. The survey results are collected, tabulated in anonymous fashion, and redistributed after each round. A maximum of three rounds is conducted and opinions are unified to the highest degree possible. Eighty (80) percent agreement is considered a consensus. If consensus cannot be reached by this method, the panel is convened and group consensus techniques are utilized. The strengths and weaknesses of each test or procedure are discussed and consensus reached whenever possible.

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

Criteria developed by the Expert Panels are reviewed by the American College of Radiology (ACR) Committee on Appropriateness Criteria and the Chair of the ACR Board of Chancellors.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

ACR Appropriateness Criteria™

Clinical Condition: Chronic Ankle Pain

Variant 1: Suspected osteochondral injury, best initial study.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Plain Films		
AP, lateral, and mortise views	9	
AP and lateral views	2	
Stress Films		
With manual stressing	2	
Stress using biomechanical device	2	
Manual stress while under general anesthesia	2	
Radionuclide Scanning		
Radionuclide bone	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
scan		
Cross-Sectional Imaging		
US	2	
MRI	2	
CT	2	
Injection Procedures		
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Diagnostic injection of anesthetic	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Abbreviations: AP, anteroposterior; US, ultrasound; MRI, magnetic resonance imaging; CT, computed tomography; MR, magnetic resonance

Variant 2: Suspected osteochondral injury, plain films normal.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Cross-Sectional Imaging		
MRI	9	
US	2	
CT	2	If MRI not available.
Stress Films		
With manual stressing	2	
Stress using biomechanical device	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Manual stress while under general anesthesia	2	
Radionuclide Scanning		
Radionuclide bone scan	2	
Injection Procedures		
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Diagnostic injection of anesthetic	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Chronic Ankle Pain

Variant 3: Suspected tendinopathy, best initial study.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Plain Films		
AP, lateral, and mortise views	9	
AP and lateral views	2	
Stress Films		
With manual stressing	2	
Stress using biomechanical device	2	
Manual stress while under general anesthesia	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Radionuclide Scanning		
Radionuclide bone scan	2	
Cross-Sectional Imaging		
US	2	
MRI	2	
CT	2	
Injection Procedures		
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Diagnostic injection of anesthetic	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Abbreviations: AP, anteroposterior; US, ultrasound; MRI, magnetic resonance imaging; CT, computed tomography; MR, magnetic resonance

Variant 4: Suspected tendinopathy, plain films normal.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Cross-Sectional Imaging		
MRI	9	
US	6	Only if experienced examiner available.
CT	2	
Stress Films		
With manual stressing	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Stress using biomechanical device	2	
Manual stress while under general anesthesia	2	
Radionuclide Scanning		
Radionuclide bone scan	2	
Injection Procedures		
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Diagnostic injection of anesthetic	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 5: Suspected ankle instability, best initial study.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Plain Films		
AP, lateral, and mortise views	9	
AP and lateral views	2	
Stress Films		
With manual stressing	2	
Stress using biomechanical device	2	
Manual stress while under general	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
anesthesia		
Radionuclide Scanning		
Radionuclide bone scan	2	
Cross-Sectional Imaging		
US	2	
MRI	2	
CT	2	
Injection Procedures		
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Diagnostic injection of anesthetic	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Chronic Ankle Pain

Variant 6: Suspected ankle instability, plain films normal.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Cross-Sectional Imaging		
MRI	3	
US	2	
CT	2	
Stress Films		
With manual stressing	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Stress using biomechanical device	2	
Manual stress while under general anesthesia	2	
Radionuclide Scanning		
Radionuclide bone scan	2	
Injection Procedures		
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Diagnostic injection of anesthetic	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Abbreviations: MRI, magnetic resonance imaging; US, ultrasound; CT, computed tomography; MR, magnetic resonance

Variant 7: Pain of uncertain etiology, best initial study.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Plain Films		
AP, lateral, and mortise views	9	
AP and lateral views	2	
Stress Films		
With manual stressing	2	
Stress using biomechanical device	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Manual stress while under general anesthesia	2	
Radionuclide Scanning		
Radionuclide bone scan	2	
Cross-Sectional Imaging		
US	2	
MRI	2	
CT	2	
Injection Procedures		
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Diagnostic injection of anesthetic	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Variant 8: Pain of uncertain etiology, plain films normal.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Cross-Sectional Imaging		
MRI	6	If patient needs an imaging study, it should be MRI.
US	2	
CT	2	
Injection Procedures		
Diagnostic injection of	5	Depending on clinical implication and

Radiologic Exam Procedure	Appropriateness Rating	Comments
anesthetic		severity of pain.
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	
Stress Films		
With manual stressing	2	
Stress using biomechanical device	2	
Manual stress while under general anesthesia	2	
Radionuclide Scanning		
Radionuclide bone scan	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Clinical Condition: Chronic Ankle Pain

Variant 9: Multiple sites of DJD by plain films, operative candidate.

Radiologic Exam Procedure	Appropriateness Rating	Comments
Injection Procedures		
Diagnostic injection of anesthetic	6	
Conventional arthrography	2	
CT arthrography	2	
MR arthrography	2	
Tenography	2	

Radiologic Exam Procedure	Appropriateness Rating	Comments
Stress Films		
With manual stressing	2	
Stress using biomechanical device	2	
Manual stress while under general anesthesia	2	
Radionuclide Scanning		
Radionuclide bone scan	2	
Cross-Sectional Imaging		
US	2	
MRI	2	
CT	2	
Appropriateness Criteria Scale 1 2 3 4 5 6 7 8 9 1=Least appropriate 9=Most appropriate		

Abbreviations: DJD, degenerative joint disease; CT, computed tomography; MR, magnetic resonance; US, ultrasound; MRI, magnetic resonance imaging

Summary

For the assessment of chronic ankle pain, there are multiple imaging options, including stress radiography, radionuclide bone scanning, ultrasound (US), computed tomography (CT), magnetic resonance imaging (MRI), and injection procedures. Injection procedures include arthrography, CT arthrography, magnetic resonance (MR) arthrography, and diagnostic injection with anesthetics. There have been no studies specifically addressing the value of plain films in the assessment of chronic ankle pain. However, plain films are routinely obtained as the first option to exclude arthritis, infection, fracture, or neoplasm.

CLINICAL ALGORITHM(S)

Algorithms were not developed from criteria guidelines.

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The recommendations are based on analysis of the current literature and expert panel consensus.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

Appropriate selection of radiologic examination procedures to evaluate chronic ankle pain

POTENTIAL HARMS

None stated

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

An American College of Radiology (ACR) Committee on Appropriateness Criteria and its expert panels have developed criteria for determining appropriate imaging examinations for diagnosis and treatment of specified medical condition(s). These criteria are intended to guide radiologists, radiation oncologists, and referring physicians in making decisions regarding radiologic imaging and treatment. Generally, the complexity and severity of a patient's clinical condition should dictate the selection of appropriate imaging procedures or treatments. Only those exams generally used for evaluation of the patient's condition are ranked. Other imaging studies necessary to evaluate other co-existent diseases or other medical consequences of this condition are not considered in this document. The availability of equipment or personnel may influence the selection of appropriate imaging procedures or treatments. Imaging techniques classified as investigational by the U.S. Food and Drug Administration (FDA) have not been considered in developing these criteria; however, study of new equipment and applications should be encouraged. The ultimate decision regarding the appropriateness of any specific radiologic examination or treatment must be made by the referring physician and radiologist in light of all the circumstances presented in an individual examination.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Living with Illness

IOM DOMAIN

Effectiveness

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

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ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

1998 (revised 2002)

GUIDELINE DEVELOPER(S)

American College of Radiology - Medical Specialty Society

SOURCE(S) OF FUNDING

The American College of Radiology (ACR) provided the funding and the resources for these ACR Appropriateness Criteria™.

GUIDELINE COMMITTEE

ACR Appropriateness Criteria™ Committee, Expert Panel on Musculoskeletal Imaging

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Panel Members: Arthur A. DeSmet, MD; Murray K. Dalinka, MD; Naomi Alazraki, MD; Richard H. Daffner, MD; George Y. El-Khoury, MD; John B. Kneeland, MD; B.J. Manaster, MD, PhD; Helene Pavlov, MD; David A. Rubin, MD; Lynne S. Steinbach, MD; Murali Sundaram, MD; Barbara N. Weissman, MD; Robert H. Haralson III, MD

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Not stated

GUIDELINE STATUS

This is the current release of the guideline. It updates a previously published version: Chronic ankle pain. American College of Radiology. ACR Appropriateness Criteria. Radiology 2000 Jun;215(Suppl):321-32.

The ACR Appropriateness Criteria™ are reviewed after five years, if not sooner, depending upon introduction of new and highly significant scientific evidence. The anticipated next review date for this topic is 2007.

GUIDELINE AVAILABILITY

Electronic copies: Available in Portable Document Format (PDF) from the American College of Radiology (ACR) Web site.

Print copies: Available from American College of Radiology, 1891 Preston White Drive, Reston, VA 20191. Telephone: (703) 648-8900.

AVAILABILITY OF COMPANION DOCUMENTS

None available

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on May 6, 2001. The information was verified by the guideline developer as of June 29, 2001. This summary was updated by ECRI on May 22, 2003. The information was verified by the guideline developer on June 23, 2003.

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